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Financial Services

Digital Tools Transform How We Save, Spend, and Invest

The financial services sector encompasses everything from central banking to cryptocurrencies. No part of this network has been left untouched by digital transformation: from banks embracing a sustainability agenda, to new players such as fintechs, the industry has undergone profound changes in the last decade. This report explores the ongoing transformation brought about by digital tools, with a focus on three key areas.

The changes that digital transformation brings about at a macro level. From banking corporations automating processes, to development banks going digital, technology changes everything. As a European Central Bank (ECB) paper on digitalization, institutions, and governance recently put it, "The increase and adoption of digital technologies—commonly referred to as digitalization—is one of the most important technological transformations in history, affecting economies worldwide at a previously unseen scale."¹

The internet, apps, and Big Data have completely transformed the customer experience. People save, spend, and invest their wealth without ever touching cash. From mobile phone payments to a granular level of control for individual investors using online platforms, the world has shifted. A new generation of customers with differing expectations are proving a powerful driver for change in the financial services industry. This report explores how digital transformation enables banks, insurers, and payment providers to personalize services, save employees and customers time and money, and comply with global regulations upstream.

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Regulatory compliance has never been more complicated, but an array of cloud products can make it straightforward. With an expanding framework of rules and regulations for different markets worldwide, financial services companies of every size have embraced the software-as-a-service ecosystem as part of their digital transformation. This is timely, as fintechs, challenger banks, and crypto services are increasingly being brought into the scope of financial regulations worldwide.

As the World Bank notes, the <u>recent pandemic was a catalyst for financial inclusion</u>² worldwide, driving a large increase in digital payments amid the global expansion of formal financial services. Globally, 1.4 billion people remain unbanked. Their first interaction with these systems will likely be digital.

The financial services sector is also adapting to global trends. Since the Great Recession of 2008, industry stakeholders have diversified, and a multilateral world has become the new normal. A new round of failures, disruption, and consolidation shows that in our digital age, trust and confidence remain as crucial as ever in the banking industry. This report explores how digital transformation enables banks, insurers, and payment providers to personalize services, save employees and customers time and money, and comply with global regulations upstream.

PART ONE Big Companies, Big Changes: Macro Level Shifts

Taking Data Out of Silos

Banks hold phenomenal amounts of data. Transactions by individuals, corporations, and governments all provide vital information, but this information is confidential, for obvious reasons. With the advent of Big Data and AI, banks can meaningfully process this in a way that respects privacy.

Whether this results in offering customers better advice about products they may require, tailoring the platforms they use, or simply looking at their own internal processes to improve sustainability, it represents a new frontier.

WORK

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Adobe

Global Transformation, Personalized Service

Founded in 1857, Spanish bank BBVA has undergone a remarkable transformation since 2015, partnering with **Adobe** to put data-driven decision-making and digital customer experience at the center of its banking operations.

"This hasn't just been a simple migration to digital," says Henrique Macedo, Global Head of Digital Analytics at BBVA. "We've grown from 66 million global customers to 79 million in just five years, and that's because we've made digital experiences a driving force across our business."

The bank set up a digital center of excellence and implemented a suite of <u>Adobe</u> <u>Experience Cloud</u> technologies to unify its data and fuel its digital growth. As part of the transition to data-driven decision-making, BBVA has personalized its customer experiences with support from Adobe Target, elevating mobile into a primary digital experience channel.

Across regions, its teams have a mandate to build, run, and learn from A/B tests to optimize their web and mobile services. BBVA has conducted more than 1,000 A/B tests to date, often running more than 30 personalization projects at any given time to improve the performance of its various sales funnels.

IBM

Ethical AI for Smarter Business Decisions

Alabama's Regions Bank realized their analytics practice too often relied on siloed data sets, development teams working in isolation, and disparate and somewhat inconsistent development methods. They worked with **IBM** to create an analytics Center of Excellence,³ bringing data into a centralized environment, applying more machine learning and Al techniques, and, above all, adopting an end-to-end business value approach that includes Al quality control.

The result has been trusted analytical solutions that help reduce risk, detect fraud, assist commercial customers, and provide insights into consumers so they can better meet customers' needs.

Spotting Fraud, Stopping Crime

Organized crime is a global issue, and <u>Interpol works on a number of crimes</u>⁴ associated with payment cards; payment systems, such as point-of-sale terminals; and cash machines (ATMs). The prevalence of online payments opened new opportunities for bad actors—but technology has solutions, as well. BSA members have harnessed the power of Big Data to identify suspicious transactions, enabling banks to prevent fraud and helping bring criminals to justice.

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Microsoft

Detecting Novel Fraud During the Pandemic

During the pandemic, e-commerce spending—especially transactions where the cardholder wasn't present—accelerated and bad actors saw a new opportunity for fraud with the rise of COVID-19 based scams. <u>Capital One teamed with **Microsoft** to implement cloud-based</u> <u>authorization</u>⁵ and improve fraud detection accuracy. Leveraging data and information that can flag risky transactions, as well as speeding up the approval process for merchants, kept people safe during unprecedented times.

A New Generation: The Growth of Fintechs

Modern banking has its roots in renaissance Italy, and the basic model of an institution that takes deposits and makes loans had remained in place for centuries. Digital transformation has changed this, with a new wave of challenger banks and so-called fintech companies, which combine finance and technology.

As <u>Mckinsey notes</u> in "Europe's fintech opportunity,"⁶ fintechs offer customers greater choice and convenience, and "the competition they bring to banking systems is already helping modernize the financial sector ecosystem in several European countries." They also bring growth.

Analyzing fintech performance across different European countries, they conclude that if fintech ecosystems in all European countries were able to attain the same level of performance as the region's best, the number of fintech jobs in Europe would grow by a factor of 2.7 to more than 364,000. The volume of funding would more than double to almost €150 billion from €63 billion, and valuations would grow by a factor of 2.3 to almost €1 trillion—almost twice the combined market capitalization of Europe's top 10 banking players as of June 2022.

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workday.

Building Scale for a Hip Berlin Start-Up

Berlin-based "neo-bank" N26 was founded in 2013 and grew rapidly. It was voted the world's best bank by *Forbes* in 2021. A huge part of its appeal was being a product-driven, cloud-based company, in a rather traditional industry: customers could start using their accounts in just eight minutes. But by 2019, customers were struggling with multiple logins and had difficulty sharing their own data.

N26 needed a technology platform that could flex and scale with it, supporting agility and innovation through every fiber of the organization. <u>They chose to implement Workday at the heart of its finance and people operations</u>.⁷ "With **Workday**, we consolidated multiple systems into one simple-to-use solution across Finance, HR and Planning," says Arno Schleussner, Director, Finance, Reporting & Capital Planning. "Having one system is really the key to the agility and innovation we need, and we are seeing tremendous gains already in accessing real-time financial data, employee productivity and user satisfaction."

A "Back End" for Forward Thinkers

Finastra, based in the UK, is building an open platform that accelerates collaboration and innovation in financial services, creating better experiences for people, businesses, and communities. <u>The</u> <u>FusionFabric.cloud open innovation platform, built on Microsoft Azure</u>,⁸ has shown a new way for applications to be written, deployed, and consumed.

Appealing to both traditional banks and fintechs, the platform uses open application programming interfaces (APIs) to enable third parties or customers themselves to develop new financial applications. With hundreds of developers working together on the platform, FusionFabric.cloud encourages innovative app creation and collaboration. Financial institutions, new and old, can access those innovations faster and more efficiently.

Community Ownership, Innovative Apps?

Community banks, which have a strong local focus, have an important role in the economy: New York Community Bank recently agreed to buy a significant chunk of the <u>failed Signature Bank in</u> a \$2.7 billion deal.⁹ This Federal Reserve paper <u>explores the evolving roles of community banks</u>.¹⁰ Partnerships with fintechs could help their work in three ways:

- Operational technology partnerships, where community banks deploy third-party technology to improve efficiency and effectiveness.
- Customer-oriented partnerships, wherein a community bank engages a third-party to enhance various customer-facing aspects of its business, and the bank continues to interact directly with its customers.
- Front-end fintech partnerships, wherein a bank's infrastructure is combined with technology developed by a fintech, with the fintech interacting directly with the end-customer in the delivery of banking products and services.

They're just one model of community-focused banking: in the UK, building societies have long been <u>owned and run by their members</u>,¹¹ rather than shareholders. Throughout Europe, *Raiffeisenbanken,* cooperative banks with their roots in early credit unions, have a strong local and social commitment but have also been quick to embrace new technologies.

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From CDs in the Mail to a Site That Won't Fail

As the world's largest building society, Nationwide Building Society delivers financial services to more than 16 million members across the UK. It first offered internet banking 25 years ago, when it mailed out compact discs to use with dial-up connections.

It has retained its leading position since then, and recently <u>switched a raft of services to</u> <u>Microsoft, including the main public website</u>,¹² the virtual front door to its brand. If an outage requires disaster recovery, Nationwide Building Society can use Azure Front Door for automatic failover protection to three global availability zones with zone-redundant storage. With high portability in Azure, the society can quickly generate a new, static copy of its website, deploy it to Azure Blob Storage, and then redirect traffic to other cloud servers to eliminate downtime.

Sustainability, Scaled

Environmental, Social, and Governance (ESG) theory measures a company's impact on society, the environment, and how transparent and accountable it is. With climate change and societal challenges a priority for governments and businesses alike, tools, apps, and companies that help companies meet their ESG goals are having a moment.

New regulations, including the European Union Sustainability Reporting Standards and Corporate Sustainability Reporting Directive, mean companies need to make meaningful changes. The European Banking Authority also published its roadmap outlining its objectives and timeline for delivering mandates and tasks in sustainable finance and ESG risks.

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SAP

Turn Sustainability Reporting into a Holistic Steering and Reporting Instrument SAP has created a Sustainability Control Tower solution¹³ so that financial services companies can measure their performance against several key performance indicators (KPIs) and act based on the insights they gain. Increasingly, ESG regulations like TCFD, EU-Taxonomy, and WEF Framework are being introduced worldwide, requiring banks and insurers to report on progress toward KPIs on a regular basis. The SAP Sustainability Control Tower solution is the centerpiece to steer ESG KPIs and provide disclosures for global, regional, and local ESG frameworks.

PART TWO The Customer Is Always Right

Connected Thinking for a Better Journey

Traditionally, banks took a linear approach to personalizing services. Teams would collect data, segment customers and prospects into broad categories, and then target relevant groups with marketing materials. But with people accessing their money through multiple devices and with the ease of assessing competing offers online, generic marketing is no longer enough.

BSA members offer a wealth of tools and systems to remedy this, creating personalized experiences and offering financial products that reflect customers' needs in real time. Banks can collect, analyze, and act on customer data faster than ever before, leading to happier customers and better results.

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Shrinking Data Analysis from a Fortnight to Moments

British bank TSB saw a 400 percent boost in loan applications just one year after going live with **Adobe** Experience Platform. "The limitations of our legacy systems when it came to customer profiles and digital experiences threatened to knock TSB off course,"¹⁴ says Mike Gamble, director of analysis and design at TSB Bank. "We needed a complete picture of every person who banks with us, from their history to their needs, to how they move through the customer journey, and that meant centralizing our data on a single platform."

Adobe Real-Time Customer Data Platform pulls together data from TSB's online and offline channels to gain a holistic view of every customer. Data that previously took 15 days to create, crunch, and transform into actional insights, can now be consolidated from multiple sources, and applied to campaigns instantaneously.

Virtual Advice, Real Enrichment

Improving the digital banking experience of current and prospective customers remains front and center for banks of every size and type. This focus means building new relationships, deploying data-driven personalized communication, and creating new digital banking products and services—that don't need an actual person behind them.

Many millennial investors are happy with the services of a robo-adviser— allowing them to invest smaller amounts wisely, without paying the fees of a real human in a suit. And chatbots can help resolve customer service issues quickly and efficiently.



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Robo Advisers for Real Results

ICICI Securities Limited is the largest retail brokerage and investment firm in India. <u>The</u> <u>company launched their Robo Advisory Platform Track&Act[™] using MATLAB[®] as its advisory</u> <u>engine</u>. A major enhancement to the company's existing financial planning and advisory practice, Track&Act[™] matches assets to liabilities and dynamically monitors each customer's target asset allocation, savings rate, and portfolio progress. The platform's advisory engine automates previously manual processes, enabling the company to offer personalized financial planning to its customer base, which comprises more than 3.6 million investors.¹⁵

"The robustness and scalability of the platform that we developed lay the foundation for rapidly growing our advisory and financial planning practice—something that would just not be possible if we were using spreadsheets or similar tools," says Abhishake Mathur, Senior Vice President for Investment Advisory Services and Customer Service at ICICI Securities.

Online Is Fine to Sign

Traditional banking involved a lot of paperwork: opening a bank account, setting up a mortgage, and making international transfers. Since the turn of the century, there have been fewer trips to meet a bank manager and sign paper documents in person, with the attendant risks. Digital transformation makes signing seamless, sustainable, and instant.

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DocuSign[®]

Less Paper, More Progress

DocuSign offers a range of processes for financial agreements. Completing transactions no longer requires documents to be printed and shipped, and re-keyed on the backend. Upstream systems can simply initiate a digital agreement, with all data and keystrokes, along with the signature itself, captured in electronic form.¹⁶

And completed paperwork can automatically file itself in the appropriate downstream systems. UBS' Americas Wealth Management Group reduced average processing time for its five most widely used forms from 11 days to 13 minutes and is saving its financial advisors an estimated 51,000 hours per year by going online.

Just Show Me the Money: Online Payments

The US payments industry is a nebulous system of banks, financial technology firms, social media companies, and retailers. Between evolving technologies and customer expectations, this system is seeing a significant shift in how payments are initiated and processed.

In some segments of the market, such as international transfers and small merchant acquiring, the payments disruptors have already capitalized on these trends to build large businesses by driving fees down, squeezing banks' margins, and building scale. Other trends, including the ongoing displacement of cash, new payments options, digital currencies and buy now, pay later services (BNPL) are all creating exciting opportunities for fintechs and traditional banks with a strong digital presence.

DX at Work: Let's Go Shopping...Now!

Online retail has changed the world: Shopify, which provides essential internet infrastructure for commerce, processed a Gross Merchandise Volume (the total dollar value of orders facilitated through the Shopify platform) of <u>\$61 billion in the fourth quarter of 2022 alone.</u>¹⁷ It processes payments for small online retailers, as well as global brands such as Mattel, Supreme, and Black and Decker.

They also launched Shopify Tax, a tax compliance tool for US-based merchants, as well as extending Shopify Payments in the Czech Republic, Finland, France, Portugal, and Switzerland, meaning it is available 22 countries.

See a Dashboard, Take Control

If part of the appeal of technology for the financial services industry is being able to personalize the services they offer to customers, there's also a strong incentive for customers to assemble disparate pots of savings and investments and view them in one place. The generation now approaching retirement has typically had multiple jobs over their working life, so services that allow them to consolidate pensions—and view them on a smartphone—filled a gap in the market. And with investors increasingly holding crypto assets alongside real world wealth, viewing them all on a single platform is a useful tool.

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sales*f*orce

Money Does Grow on Trees

Japanese app Moneytree helps millions build their wealth with personal finance, but the roots it grew from are provided by **Salesforce**'s Heroku. The Moneytree app links directly to users' bank and credit card accounts, superannuation funds and loyalty programs to display real-time financial information in one easy-to-use app. It offers users a simple way to track their spending and get a detailed picture of their financial health in real time. It has since been downloaded more than four million times.¹⁸

The founders decided against building a website platform, and instead launched the company with a <u>stand-alone app that is built on Heroku</u>. "Heroku's simple interface really aligned with our core value of simplicity. It meant that we could get the app up and running quickly at a low cost," says Mark Makdad, Head of Platform at Moneytree. "Using Heroku also allowed us to our focus on managing the company rather than reinventing the wheel when it came to the back-end development." It took a team of five less than 12 months to launch the app.

Open Banking, Opening Doors

An API is a <u>set of defined rules</u> that enables different applications to communicate with each other. They set data free. Brought on by a combination of government regulation and market forces, open financial data allows an expanding universe of players—both financial and non-financial—to access customer accounts and data to offer new products and services—with the user's consent, of course. Still in its infancy, the movement has the potential to reshape everything from bank accounts, credit cards, payments, mortgages, small business loans, and even insurance policies. In Australia, the European Union, India, South Korea, and the United Kingdom, governments have mandated large banks to open their vast troves of customer accounts to other companies, in a bid to stimulate competition, while this phenomenon is more market-led in the US. The surge in online activity and digital behaviors has also opened new avenues for companies to integrate financial services directly into customers' daily activities, such as online shopping and the management of payments related to cars.

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A ATLASSIAN

Simplicity Is a Virtue

Fintech pioneers like Solarisbank are rising to the challenge of making banking simpler for companies and their customers. A tech company with a German banking license, Solarisbank offers a completely digital banking-as-a-service platform.¹⁹

The company grew to more than 300 employees in just four years. Scaling so quickly, they were using multiple tools for communication, documentation, and development, with resulting inefficiencies. They switched to **Atlassian** products, including Jira and Confluence, to simplify their systems. Financial Analyst Jordi Vilalta says, "In Finance, [Atlassian] has helped us get really structured to centralize communication channels, avoid losing track of information, and be more efficient."

Complicated Compliance, Growing Threats

Complying, All Over the World

Money never sleeps, and it doesn't stay still for long, either. Financial services is a truly multinational sector, but regulation can vary by country and region, with a special set of rules for banks that do business internationally, the <u>Basel Framework</u>.²⁰ Software can greatly simplify compliance for companies that do business cross-border.



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Fast Remittance, Speedy Compliance

Western Union has network of more than 500,000 agent locations in more than 200 countries, so cross-border compliance reporting is a big issue. Working with <u>Alteryx to</u> <u>develop compliance solutions saved them millions of dollars</u> and removed a major source of stress from multiple teams.²¹

Bob Bulkley, Manager of Reporting and Analytics, Western Union, used Alteryx to fulfil the regulatory requirements to send transaction confirmation letters to customers. With Alteryx, Bulkley was able, in about three hours, to automate the process and generate more than 1,000 letters a day.

Compliance, as a Service

Many financial institutions have held back from moving their core workloads and sensitive data to the cloud due to cybersecurity risk and growing regulatory complexities. Compromising on security or regulatory compliance is not acceptable. Fortunately, there are now paths to the cloud and the strategic transformation it enables without making such compromises. In addition, these solutions can help financial institutions mitigate risks that may exist in the use of software-as-a-service.

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DX at Work: Hybrid Cloud, Happy Customers

BPER Banca Group, Italy's third-largest banking group, has a four-year agreement with IBM to expand the bank's hybrid cloud strategy. The security, scalability, and reliability of IBM Cloud for Financial Services can help meet the compliance requirements of this heavily regulated industry; at the same time this highly secured hybrid cloud environment will allow the bank to manage mission-critical data, services, and workflows across multiple platforms to improve operational efficiency and drive innovation.²²

"Innovation and digitalization are two of the main priorities on which BPER Banca is focusing," said Elvio Sonnino, Deputy General Manager and Chief Operating Officer of BPER Banca. "The banking sector is undergoing rapid transformation and the benefits and potentials that emerge today from the dynamics of technological innovation are very wide."

Conclusion: Digital Transformation Drives Financial Progress

As shown in this report, digital transformation has brought new players, new customers, and new tools to the financial services industry. The question is where to go next. In a September 2022 report, the US Department of the Treasury outlines several policy goals where BSA members and their services can play an active role.

"Certain legacy payment systems can be slow, difficult to adapt, and challenging for some consumers or businesses to access," the report notes, adding that a "significant population" is underserved by existing systems. New technologies, as shown above, can play a vital role in broader financial inclusion: anyone with a phone can now have a bank account.

"Recent innovations in money and payments, including instant payment systems and stablecoins, could have far-reaching implications," the report adds, setting out responsible innovations in payments as a priority for the US government. Customers are used to having a huge array of financial services at their fingertips thanks to digital transformation: the next wave of innovation will put them at the center of what the industry does.

Digital transformation is redefining business and society, initiating an unprecedented new era of opportunities and challenges. Digital transformation enables the creation and improvement of business processes, culture, and customer experiences and has the potential to yield profound benefits in the areas of sustainability, inclusive growth, and workforce development.

Governments around the world are seeking to regulate the digital environment in key areas such as privacy, artificial intelligence, cybersecurity, cross-border data, and other areas more boldly surfaced by digital transformation. Learn more at www.dxnetwork.org.

Endnotes

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Cross-Sector Series Overview

Digital transformation is having profound impacts across all industries. This series of reports is intended to demonstrate how software-enabled technologies and innovative companies are enabling the creation and improvement of business processes, culture, and customer experiences across sectors.



Construction: Digital Tools Help Build a Better Future

This report explores the digital tools and processes that enable architects, engineers, and contractors to design, construct, and maintain the built environment worldwide.



Automotive: Digital Tools Help Drive the Next Era of Transportation

This report outlines digital transformation in the automotive sector, including innovation toward important objectives, including lowered emissions, improved safety features, and enhanced connectivity.



Sustainability: Digital Tools for a Sustainable Future

This report demonstrates how software can help reach sustainability goals, such as reducing overall net electricity demand by more than 25 percent, cutting greenhouse gas emissions by 19 percent, and saving billions on our energy bills.



Manufacturing: Digital Tools Transform How Things Get Made

This report delves into how digital tools are transforming the manufacturing process from beginning to end, allowing for increased revenue, improved productivity, enhanced safety, and greater sustainability.

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The Digital Transformation Network (DTN), an initiative of BSA I The Software Alliance, brings together cross-sector business and technology leaders for constructive dialogue and information exchange in the areas of government regulation, public policy, and impacts to society associated with software-enabled digital transformation. Charter subscribers represent market leaders experiencing digital transformation across advanced manufacturing, automotive, consumer goods, energy, financial services, healthcare, retail, media, and telecommunications industries.

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